

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method of designing a phase shifting mask, the method comprising:
 - (a) identifying edges of a first phase region of a phase shifting mask, the first phase region being located proximate a critical region and the identified edges not being edges of the first phase region adjacent to the critical region;
 - (b) expanding the identified edges outwardly and inwardly to define a narrow line along the edges of the first phase region; and
 - (c) forming chrome in the narrow line to form a chrome boundary along the edges of the first phase region.
2. (Original) The method of claim 1, wherein forming chrome in the narrow line to form a chrome boundary includes merging the narrow line with a chrome database.
3. (Original) The method of claim 1, further comprising:
 - (a) assigning phase polarities to the first phase region;
 - (b) defining edges of the first phase region;
 - (c) establishing a boundary around the defined edges; and
 - (d) assigning area outside of the established boundary to have phase zero.
4. (Original) The method of claim 3, wherein the first phase region and a second phase region are assigned phase angles 180 degrees from each other.
5. (Original) The method of claim 4, further comprising generating a trim mask to remove undesired patterns between the first phase region and the second phase region.
6. (Original) The method of claim 1, wherein the narrow line has a width of a minimum gate width dimension.

7. (Original) The method of claim 1, further comprising defining a boundary around the critical region.

8. (Original) The method of claim 7, wherein defining the boundary includes defining a boundary around edges having phase 180.

9. (Original) The method of claim 1, further comprising defining break locations to have minimal impact on circuit performance and yield.

10. (Original) The method of claim 9, wherein the break locations have a width that permits patterning and inspection.

11. (Original) The method of claim 1, further comprising generating a trim mask to remove undesired patterns between regions of first and second phases.

12. (Currently Amended) A method of generating phase shifting patterns to improve the patterning of gates and other layers needing sub-nominal dimensions, the method comprising:

- (a) defining critical gate areas;
- (b) creating phase areas on either side of the critical gate areas;
- (c) assigning opposite phase polarities to the phase areas on either side of the critical gate areas;
- (d) enhancing phase areas with assigned phase polarities;
- (e) defining break regions where phase transitions are likely to occur;
- (f) generating polygons to define other edges and excluding the defined break regions; and
- (g) constructing a boundary region along edges of the ~~outside of~~ first phase regions to form a chrome border by expanding the edges outwardly and inwardly.

13. (Original) The method of claim 12, further comprising:

- (a) correcting design rule violations; and

(b) applying optical proximity and process corrections to phase regions to allow proper pattern generation.

14. (Original) The method of claim 12, further comprising generating a trim mask to remove undesired patterns between first phase regions and second phase regions outside of a desired pattern.

15. (Original) The method of claim 14, wherein the generating is done by oversizing boundary and break regions.

16. (Original) The method of claim 14, wherein the chrome border has a width of a distance between phase 0 and phase 180 regions.

17. (Currently Amended) A method of enhancing clear field phase shift masks with a chrome border around outside edges of a first phase area, the method comprising:

(a) assigning phase polarities to phase areas, the phase areas including first phase areas and second phase areas;

(b) defining edges of the assigned phase areas;

(c) establishing a boundary around the defined edges of the first phase areas by expanding the defined edges outwardly and inwardly; and

(d) forming a chrome border in the boundary around the first phase area.

18. (Original) The method of claim 17, wherein defining edges of the assigned phase areas includes defining break regions where phase transitions occur and generating polygons including edges but excluding break regions, wherein the polygons are merged with the assigned phase areas.

19. (Original) The method of claim 17, further comprising generating a trim mask to remove undesired patterns between the first phase area and the second phase area.

20. (Original) The method of claim 19, wherein the generating is done by oversizing the boundary and break regions.

21. (Currently Amended) A mask configured for use in an integrated circuit manufacturing process, the mask comprising:

(a) a critical pattern section defined by first edges of a phase zero region and first edges of a phase 180 region; and

(b) a chrome boundary region located along ~~outside~~ second edges of the phase 180 region, the second edges of the phase 180 region being different than the first edges of the phase 180 region, wherein the chrome boundary region includes an opaque material.

22. (Original) The mask of claim 21, further comprising a region outside of defined areas having a phase of zero.

23. (Original) The mask of claim 21, wherein the opaque material includes chrome.

24. (Original) The mask of claim 21, wherein the phase zero region and the phase 180 region are assigned phase angles 180 degrees from each other.